

Preliminary Arboricultural Impact Assessment



**World of Pets and Leisure, Thorley
Lane, Timperley
7th September 2021**



**Tyler
Grange**

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Summary

- S.1. This report has been prepared by Tyler Grange on behalf of Harlex Property to accompany an outline planning submission for residential development at the World of Pets and Leisure store, Thorley Lane, Timperley (hereafter referred to as 'the site').
- S.2. The report sets out the baseline findings of a BS5837 Tree Quality Survey and assesses the impact of the proposed outline development in relation to the existing surveyed tree stock.
- S.3. The site's tree cover comprises ornamentally planted trees as components of the existing developments soft-landscaping scheme. While some trees offer a degree of maturity to the setting, none are considered to be of high arboricultural value (Category A) or of notable maturity. Several moderate value (Category B) trees and groups are present among lower value (Category C) trees.
- S.4. The proposed development comprises an outline planning application for up to 116no. residential dwellings with all matters reserved aside from access, for which detailed consent is sought.
- S.5. An indicative masterplan has been prepared to demonstrate how the site could be brought forward for development. The scheme shows how a layout can be designed around the principal boundary stock where possible, but would likely require the selected removal of a mixture of internal ornamental and naturalised self-seeded tree cover to facilitate the proposed development. The potential tree removals are considered unavoidable due to direct conflicts with the proposed development layout, but the extent of loss could be refined at the later detailed planning and design stage once a fixed and fully detailed scheme is available. At this outline stage the impact of the proposed tree loss will alter the context and arrangement of internal tree cover within the site, but this is not considered to impact on the wider visual amenity from an arboricultural perspective given the opportunities to retain trees at the site boundaries.
- S.6. As part of mitigating the removal of existing tree cover an indicative landscape masterplan has been prepared to supplement the outline layout. This demonstrates the type of landscape solution that could be brought forward through the site's redevelopment, illustrating the opportunities for tree replacement and the incorporation of new planting throughout the site. This enables a degree of compensatory re-planting to be implemented as part of the residential layout to balance the likely extent of tree losses. Whilst no detailed soft-landscaping designs have been prepared at this stage such inputs could be addressed via a suitably worded planning condition if required.
- S.7. It is recommended that a detailed Arboricultural Method Statement is prepared in accordance with a suitably worded pre-commencement planning condition to provide details in terms of protecting retained trees during the course of the proposed development.



Section 1: Introduction

- 1.1. This Preliminary Arboricultural Impact Assessment (AIA) has been prepared by Tyler Grange Group Ltd (TG) on behalf of Harlex Property. It sets out the findings of a tree survey and associated assessment of development impacts in relation to proposed residential development of land at World of Pets and Leisure, Thorley Lane, Timperley (hereafter referred to as 'the site'),
- 1.2. An outline planning application for a proposed development comprises up to 116no. residential dwellings with all matters reserved aside from access, for which detailed consent is sought is to be submitted to Trafford Council.
- 1.3. The purpose of this report is to:
 - Set out the findings of a baseline / pre-development tree survey of the site which has been undertaken in accordance with British Standard BS5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations' (hereafter referred to as BS5837); and
 - Provide a preliminary assessment of the outline development layout / indicative masterplan to ascertain the extent of likely tree removal works needed to accommodate the proposed layout, and the likely implications for development in relation to the retained tree cover within the site. The proposed layout is not fixed and shows a way in which the site could be brought forward for development and as such the potential tree losses remain subject to a detailed planning and design phases to confirm the definitive extent of loss and retention.



Section 2: Baseline Information

Site Description

- 2.1 The site is located on the edge of the settlement of Timperley, Trafford, around OS grid reference SJ 78858 87877. The site extends to approximately 2.9ha and comprises a former garden centre with associated grounds to the south of Wood Lane. The site comprises an arrangement of amenity grassland areas, open storage, buildings, grassland, scrub, hedgerow, hardstanding, ponds and scattered trees and scrub within a largely developed context as an active plant and aquatic sales facility. The site is located to the east of Thorley Lane and is surrounded by residential development to the west and north.

Tree Survey Summary

- 2.2 A full tree survey of the site was undertaken in August 2021.
- 2.3 The survey was completed in accordance with BS5837, and the methodology as detailed at **Appendix 2** to the rear of this report. In accordance with the above recommendations, the tree survey included all trees within / in influence of the site and the site boundaries that were over 75mm diameter at breast height (dbh).
- 2.4 Measured topographical survey data was used to inform the locations and surrounding context of the sites individual and groups of trees. Any trees not included within the topographical survey have been approximated using measurements taken during the tree survey and further informed by aerial photography.
- 2.5 A total of 19no. individual trees, 18no. groups of trees and 4no. hedgerows were identified during the tree survey of the site. The survey findings are illustrated on the **Tree Constraints Plan (TCP 12123/P01b)** located at the rear of this report. The **TCP** shows the distribution of the trees surveyed together with details of their constraints to new development in accordance with BS5837, including:
- Tree Quality Gradings;¹
 - Root Protection Areas (RPA's);²
 - Tree canopy spreads;³
 - Tree Shading.⁴
- 2.6 Findings for each of the trees surveyed are detailed in the **Tree Survey Schedule** (see **Appendix 4**). This provides a tabulated record of the trees surveyed, including reference numbers, species

¹ The value of arboricultural features surveyed in accordance with the methodology set-out in Appendix 3.

² A layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and

where the protection of the roots and soil structure is treated as a priority. See further explanation at Appendix 3.

³ Dimensions of the trees crown spread and clearance from ground level. See further explanation at Appendix 3.

⁴ Shade cast by existing trees which may affect the availability of sunlight and daylight within a new development. See further explanation at Appendix 3.



composition, tree dimensions, life stage, physiological and structural condition, and the arboricultural value of each survey entry.

Tree Grading Summary

- 2.7 The trees surveyed have been categorised using the 'cascade chart for tree quality assessment' (see **Appendix 3**) recommended by the BS5837. Grading subcategories (1, 2 and 3) are intended to reflect the arboricultural, landscape and cultural values, respectively. The grading system allows informed decisions to be made concerning the design and impact of potential development in relation to the arboricultural value of the trees surveyed.
- 2.8 Surveyed trees are predominantly Low Value (Category C) specimens with a number of Category B (Moderate Value / Quality) trees also present. No trees have been surveyed as 'Category A' (High Value / Quality) specimens.
- 2.9 Category B trees are denoted by a 'Blue' tree canopy outline as illustrated on the **TCP**, and include:
- T7 (Silver Birch)
 - T8 (Atlantic Cedar)
 - T10 (Tree of Heaven)
 - T15 (Willow)
 - G7, G9, G13, G15 (Mixed species)
- 2.10 This level of classification has often been assigned to trees which attract a higher collective rating than they might as individuals, particularly in terms of their visual appearance where contributing to a cohesive group of trees. Category B trees predominantly include specimens or groups with maturity and / or good future potential, whilst not representing a tree or groups of trees with notable or distinct arboricultural functions.
- 2.11 All remaining trees represent largely unremarkable examples of the species and are classed as Category C specimens. Category C trees are trees represent trees of low arboricultural quality and value. Category C trees are denoted by a Grey tree canopy outline as illustrated on the **TCP**. These provide limited or transient benefits in the existing site context which may be readily replaced. The integration of Category C trees into the design has been recognised as important where practicable as they contribute to the overall tree cover within the site vicinity, nonetheless, they are of less priority for retention, particularly where their removal benefits to the retention of Category B tree cover.

Tree Preservation Orders

- 2.12 None of the surveyed trees are covered by a Tree Preservation Order (TPO). The site does not lie within a Conservation Area.



Section 3: Preliminary Arboricultural Impact Assessment

- 3.1. This Preliminary Arboricultural Impact Assessment has been undertaken to predict the likely tree losses and impacts in response to the outline development proposals prepared by Northmill Associated. The assessment has been undertaken to predict the likely tree losses and impacts associated with the indicative masterplan layout.
- 3.2. Approval is not being sought for the site layout through the outline planning application and as such the tree losses are not definitive and are based only on the indicative masterplan option rather than a fixed and fully detailed layout. The assessment is informed by a composite of the tree survey findings and the proposed drawings with the potential tree losses described below.

Expected Tree Retention and Removal

- 3.3. In accordance with BS5837, potential tree losses to implement the indicative masterplan are illustrated on the **Preliminary Tree Retention and Removal Plan (Ref. 12123/P03b) (TRRP)** located to the rear of this report. The potential tree removals are also listed in the table below.

Tree Number / Grading Category	Description of Potential Loss, subject to scheme fix.
T2 (Category C)	Removal of tree cover due to direct conflicts with development footprint within the RPA.
T3 (Category C)	
T4 (Category C)	
T7 (Category B)	Removal of T7 due to direct conflicts with proposed residential layout.
T13 (Category C)	Removal of T13 due to conflicts with internal highways arrangement.
T14 (Category C)	Removal of western boundary T14 due to conflicts with proposed rear garden / footway connection.
T19 (Category C)	Removal of tree cover due to direct conflicts with development footprint within the RPA.
G2 (Partial) (Category C)	Cutting back of westernmost understorey vegetation due to conflicts with internal highways arrangement.
G4 (Category C)	



G5 (Category C)	Removal of internal naturalised and ornamental tree cover due to conflicts with proposed residential layout and highways arrangement.
G6 (Partial) (Category C)	
G7 (Partial) (Category C)	Cutting back of site-side trees due to conflicts with proposed residential layout and highways arrangement.
G8 (Partial) (Category C)	Removal of internal naturalised and ornamental tree cover due to conflicts with proposed residential layout and highways arrangement.
G9 (Partial) (Category C)	
G10 (Category C)	Removal of western boundary tree cover due to conflicts with proposed parking area / turning head.
G11 (Partial) (Category C)	Cutting back of site-side vegetation to create additional garden space along western site boundary.
G12 (Category C)	Removal of internal naturalised tree cover due to conflicts with proposed residential layout and attenuation.
G17 (Partial) (Category C)	Removal of south eastern boundary tree cover due to conflicts with proposed footway.
G18 (Category C)	Removal of internal naturalised tree cover due to conflicts with proposed footway and residential curtilage.
H3 (Partial) (Category C)	Cutting back of site-side vegetation to create additional garden space along western site boundary.

Table 3.1. *Potential Tree Losses Required to Implement Outline Scheme Proposals*

Potential Works within Root Protection Areas

- 3.4. There are instances across the indicative masterplan where new footways and plot boundaries are shown within the RPAs of retained trees. This relates to G6 and the retained vegetation within G8, along with the site-side RPAs of H3, T8, T10 and T11, where rear gardens and associated fence lines will be located within the rooting environment of these retained trees. New hardstanding (footways, parking areas and pedestrian connections) is also shown to traverse sections of the RPAs of G8, G11, G14, T5, T10, T11, T12, T15 and T17. Whilst the layout is only an indication of the type of development which could be taken forward on-site, the commentary below sets out the principles for working within the RPAs in this way.
- 3.5. There is scope for refining the arrangement of plots and hardstanding further in relation to the calculated RPAs at the later detailed planning and design stages, but where minor built form is required to be positioned in the RPAs as currently shown, such works will need to utilise a no-dig technique. Such works would be fully detailed and specified within an Arboricultural Method

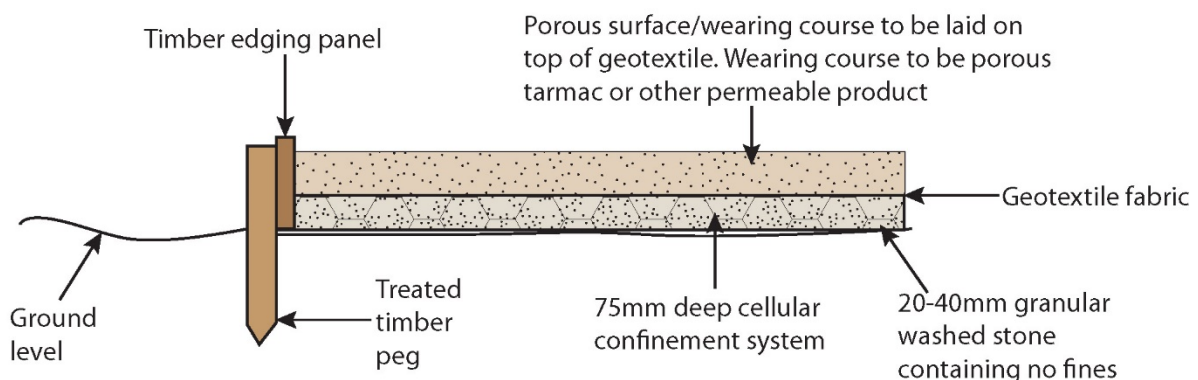


Statement (AMS), which would be prepared to discharge suitably worded pre-commencement planning conditions to safeguard existing tree stock during the construction phase of development, but the principle of implementing such works is set out below.

- 3.6. Footpaths within RPAs can be created using a granular wearing course and sub-base system, retained by non-invasive timber edging. The surface treatment can utilise permeable tarmac or permeable block paving (or similar) to maintain water and aeration in relation to the calculated site-side RPAs. A no-dig solution using 75mm – 150mm Cellweb Tree Root Protection systems (or similar; example images below) will require that only turf layers and other vegetation need to be removed from the surface as the Cellweb system does not require excavation into the soil, therefore avoiding damage to tree roots. Construction will need to be undertaken by hand and with care not to damage the adjacent canopies or to disrupt the ground condition within the surrounding RPA.



- 3.7. An illustrative cross section is included below. A separation fabric, using the Treetex T-300 Geotextile (Geosynthetics Ltd) will be laid directly onto the ground as a separation and filtration layer. Treetex T-300 also acts as a pollution control layer to protect the soils beneath. Angular 40/20mm stone will then be laid as a sub-base to allow for variable levels and soil conditions within the site. The specified depth of Cellweb Tree Root Protection system will then be laid and filled with the same stone as infill to provide a load-bearing and permeable structure suitable for pedestrian movements.



- 3.8. Any plot boundary fence posts can be hand dug and realigned if required to avoid principal tree roots with holes being sheathed with an impenetrable membrane to avoid contamination of concrete in relation to tree roots. Any paving slabs which are to be laid within the RPAs can be dry-jointed on a sharp sand, or coarse aggregate no-fines, foundation to allow air and moisture to penetrate to the rooting area.



- 3.9. Any requirement for excavation in close proximity to RPAs would also be overseen by a suitably qualified arborist to ensure that any identified tree roots are appropriately managed and protected. Site monitoring and full details of construction phase mitigation would be stipulated as part of a later Arboricultural Method Statement (AMS) report.

Proximity Trees to New Development

- 3.10. The social proximity associated with retained trees has been recognised in relation to the potential impacts of shading, canopy growth and seasonal nuisance towards newly occupied buildings.
- 3.11. Potential tree shading relates to G6, T8, T10 and T11 where available daylight may be reduced across rear garden spaces of adjoining dwellings. In these instances, the arboricultural importance of these trees is considered to outweigh the requirement for their removal although specifications for pruning and canopy reduction works can be explored as a means of reducing the likely shading implications. Given the current masterplan is indicative, there will likely be options to offset the buildings further from the trees to minimise the potential shading impacts can be explored as part of the later detailed design phase.

New Tree Planting Opportunities

- 3.12. An indicative landscape masterplan has been prepared to supplement the proposed outline layout which demonstrates the type of landscape solution that could be brought forward through the site's redevelopment. The proposals highlight the opportunity to implement a mix of new native trees, ornamental specimens, stands of woodland understorey planting, shrubs and hedgerow planting alongside areas of new lawn and meadow planting to diversify the site's Green Infrastructure contribution.

Construction Mitigation

- 3.13. As noted above, it will be necessary to demonstrate how the above and below ground structures of retained tree cover will be protected during the site preparation and construction phases of development in accordance with BS5837:2012. It is therefore recommended that a full Arboricultural Method Statement (AMS) is prepared as part of a reserved matters application, or to discharge applicable and suitably worded pre-commencement planning Conditions.
- 3.14. An AMS will set out a practical and robust strategy for the protection of retained trees for the site preparation, construction of the proposed access arrangement and the wider development works. The AMS scope would typically be agreed in writing with the LPA but is recommended to include:
- a schedule and specification of any tree works;
 - specifications for barriers and ground protection;
 - procedures for any specialist construction techniques and any supervised excavations within RPAs;
 - phasing of work;
 - an auditable system of site monitoring; and
 - a Tree Protection Plan.



Conclusion

- 3.15. A BS5837 tree survey has been undertaken to inform the arboricultural impact of a proposed outline residential development layout at the World of Pets and Leisure store, Thorley Lane, Timperley.
- 3.16. The development proposals require the removal of a mix of Category C (low value) and Category B (moderate value) trees and groups comprising a mix of ornamental specimens in and around the current store and open storage areas.
- 3.17. Notwithstanding the trees that will likely need to be removed to facilitate development, there is scope to maintain many of the trees across the site, as this assessment demonstrates. The proposals also allow for the provision of new planting across the scheme to provide compensatory planting and the strengthening of site boundary vegetation cover. This suggests that notable arboricultural benefits could be achieved through this scheme. The development proposals are therefore considered acceptable in arboricultural terms. In the absence of detailed soft-landscaping proposals at this outline stage, the proposed strategy for landscape enhancements suggests that the proposed scheme will offer a highly treed setting across the developed areas, together with new informal arboricultural features being created within areas of public open space.
- 3.18. The definitive effects and the impact of scheme proposals will, however, depend on the detailed design approach and the delivery of a design that addresses site levels, layout, drainage regime, detailed planting proposals and microclimatic effects in more detail. Further work is therefore recommended to include a standalone Arboricultural Method Statement to accompany a subsequent reserved matter applications and / or discharge of suitably worded planning conditions to demonstrate the protection measures in relation to retained tree cover during the construction phase of the proposed development.



Appendix 1: Planning Policy Context

- A1.1. Under the Town and Country Planning Act 1990 (as amended) the requirement to consider trees as part of development is a material planning consideration and will be taken into account in the determination of planning applications. Applicable arboricultural planning policy that relates to the site is set out below at a National and Local level.

National Planning Policy

- A1.2. The consideration for existing trees and woodlands in relation to planning and new development is set out within Sections 12 and 15 of the NPPF published in July 2021.
- A1.3. Section 12, paragraph 131 states that *"Trees make an important contribution to the character and quality of urban environments and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users."*
- A1.4. Section 15, paragraph 174 states that *"Planning policies and decisions should contribute to and enhance the natural and local environment by: Subsection B; "recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland"*
- A1.5. Section 15, paragraph 180 states that *"When determining planning applications, local planning authorities should apply the following principles:" Subsection C; "that development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists".*

Local Planning Policy

- A1.6. Planning applications are currently decided upon primarily by using the policies of the:
- Core Strategy (Adopted January 2012);
 - Revised Unitary Development Plan (UDP) (Adopted June 2006);
 - Greater Manchester Joint Waste Plan (Adopted April 2012);
 - Greater Manchester Joint Minerals Plan (Adopted April 2013); and
 - Altrincham Town Centre Neighbourhood Business Plan (Adopted November 2017)
- A1.7. The Core Strategy and Revised UDP are gradually being replaced by the Trafford Local Plan with the emerging Greater Manchester Spatial Framework (GMSF) providing the overarching framework. However, until such time as the Core Strategy and Revised UDP policies are fully replaced, after the adoption of the Local Plan, the relevant policies will still be used to determine planning applications.



Core Strategy

- A1.8. The Core Strategy sets out the Council's spatial policy framework for delivering the development and change needed to realise the Council's vision for the Borough up to 2026. It includes policies relating to economic, social and environmental issues and how these will shape the future of Trafford.
- A1.9. **Policy R2 Natural Environment** states that *"To ensure the protection and enhancement of the natural environment of the Borough, developers will be required to demonstrate through a supporting statement how their proposal will:*
- Protect and enhance the landscape character, biodiversity, geodiversity and conservation value of its natural urban and countryside assets having regard not only to its immediate location but its surroundings; and*
 - Protect the natural environment throughout the construction process.*
- A1.10. *"Woodland, hedgerows and hedgerow trees and trees including street trees and ancient trees"* are listed under Policy R2 as part of the Borough's natural environment assets.
- A1.11. **Policy R3 Green Infrastructure** states that *"The Council working with local communities, developers and partners, will develop an integrated network of high quality and multi-functional green infrastructure (GI) that will:*
- Contribute to the diversification of the local economy and tourist development through the enhancement of existing, and provision of new facilities;*
 - Improve health and well-being;*
 - Improve and enhance cross-boundary connectivity and accessibility through the delivery of joint development proposals;*
 - Protect and connect existing and potential sites of nature conservation value and historic landscape features, and seek to create new wildlife habitats as recommended in the GM Ecological Framework;*
 - Protect and provide appropriate natural space to connect landscapes and allow wildlife to move through them to adapt to climate change;*
 - Mitigate the negative effects of climate change and support biodiversity, for example inclusion of green roofs, green walls and tree planting;*
 - Maximise the potential climate change benefits of the network and deliver, where appropriate, the opportunities and requirements set out in Policy L5, including enhanced flood risk management through water storage or run-off protection, integrating mitigation measures such as SUDS into the design, controlling temperatures through shade and other cooling effects, and reducing air and water pollution; and,*
 - Create appropriate access for a wide range of users to enjoy the countryside, including improved linkages to formal and informal recreation opportunities, particularly in the priority regeneration areas identified in Policy L3.*



- A1.12. The policy adds that *“At a strategic level this network will include all assets listed in Policy R2 and (but not restricted to) incidental landscaping and street trees and hedgerows”*.

Unitary Development Plan (UDP)

- A1.13. The UDP is a statutory document that plays a major role in shaping the future of the Borough. It shows what land in the Borough can be developed and for what purpose. The Revised Trafford UDP was adopted in June 2006. The UDP forms part of the Local Plan for Trafford. Most of the UDP policies are no longer operational as they have been superseded.
- A1.14. **Policy ENV4 – Tree, Hedgerows and Woodlands** states that *“The Council will foster the retention of trees, woodlands and hedgerows and encourage new tree planting, including planting of new woodlands and hedgerows, utilising native species, wherever possible”*.
- A1.15. **Policy ENV16– Tree Planting** states that *“in considering development proposals throughout the Borough, the Council will impose planning conditions or negotiate planning obligations with applicants to secure the planting of trees, hedges and woodlands in a way that is fairly and reasonably related in scale and kind to the proposed development. Planting should be in keeping with the locality using native species. Where the scale and nature of the proposed development justify off-site planting, a financial contribution will be sought”*.



Appendix 2: Methodology, Constraints, Mapping and Limitations

Field Work

- A2.1 In accordance BS5837, the tree survey included all trees within / in influence of the site and the site boundaries that were over 75mm diameter at breast height (1.5m).
- A2.2 Measured topographical survey data (supplied by others) was used to inform tree locations their surrounding context. Any trees not identified on the topographical survey are prefixed with (*) and their locations have been approximated using measurements during the tree survey and further informed by aerial photography where required.
- A2.3 The trees surveyed were visually inspected from ground level only. No invasive investigations or climbing inspections were necessary to confirm visual or audible signs of defect or debility and no tissue or soil samples were undertaken. For further clarification please refer to the tree survey explanatory notes in below.

Tree Numbers

'T' prefixes have been used to identify individual trees and commence with 'T1'.

'G' prefixes have been used to identify groups of trees.

'H' prefixes have been used to identify hedgerows.

'W' prefixes have been used to identify woodlands.

Species

- A2.4 Species are listed by their common name, both in the schedule and in the report text.

Height and Stem Diameter

- A2.5 The stem diameter is measured at 1.5m above ground level and given in millimetres (mm). Tree heights are measured in metres (m) using a clinometer where access and land topography allowed. In instances where access to tree's stem and height measurements were not possible, the dimensions have been estimated by eye.

Crown Spread and Height of Crown Clearance

- A2.6 Radial crown spread is measured in metres and is listed for each of the four cardinal points where access has been possible to obtain a measurement. Where access was not possible to measure the spread of the canopy, such distances have been estimated by eye or informed by aerial photography.
- A2.7 The measured canopy shapes have been plotted on the **Tree Constraints Plan** at the four cardinal points. For groups of trees, the extent of the canopy has been measured as an average across the group and plotted using the topographical survey mapping. In some instances, Tyler Grange will use aerial photography to inform the canopy spread of larger tree groups and woodlands where topographical data is limited for such features.



- A2.8 The distance between the ground level and the first significant branch or radial tree crown, whichever is the lower, has been measured in metres.

Age Class

- A2.9 The age of each tree is defined as follows:

Young - within the first third of reaching full maturity;

Semi-Mature - within the second third of reaching full maturity;

Early-Mature - within the last third of reaching full maturity;

Mature - specimen at full maturity; and

Veteran - tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

Physiological and Structural Condition

- A2.10 The physiological or structural condition of each tree is defined as either; good, fair, poor or dead. For each tree, where appropriate, notes on the structural integrity are provided on form, taper, forking habit, storm damage, decay, fungi, pests, etc.

- A2.11 An assessment of a tree's physiological condition is defined as:

Good - fully functioning biological system showing expectant vitality for the species i.e. normal bud growth, leaf size, crown density and wound closure.

Fair - fully functioning biological system showing below average vitality i.e. reduced bud growth, smaller leaf size, lower crown density and reduced wound closure.

Poor - a biological system with limited functionality showing clear physiological decline, disease or significantly below average vitality i.e. limited bud growth, small and chlorotic leaves, low crown density and limited wound closure.

Dead - tree observed to fully dead with no living parts.

- A2.12 An assessment of a tree's structural condition is defined as:

Good - no significant structural defects.

Fair - structural defects which could be alleviated through remedial tree surgery or arboricultural management practices

Poor - structural defects which cannot be alleviated through tree surgery or arboricultural management practices.

Tree Quality Gradings

- A2.13 The value of trees has been assessed in accordance with the BS5837 Cascade Chart for Tree Quality Assessment (See **Appendix 3**). Grading subcategories (1, 2 and 3) reflect arboricultural, landscape and cultural values, respectively.



Root Protection Areas

- A2.14 The **Tree Constraints Plan** shows the approximate extent of Root Protection Areas (RPAs). The RPAs have been plotted and calculated in accordance with the methodology set out in Appendices C and D of BS5837, using the tree stem diameter dimensions obtained during the site visit.
- A2.15 Plotted RPAs serve as a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.
- A2.16 Where pre-existing site conditions or other factors indicate that rooting may occur asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution observed on-site. Any deviation in the RPA from the original circular plot should take account of the following factors whilst still providing adequate protection for the root system:
- a) the morphology and disposition of the roots, when influenced by past or existing site conditions (e.g. the presence of roads, structures and underground apparatus);
 - b) topography and drainage;
 - c) the soil type and structure; and
 - d) the likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.
- A2.17 The plotted RPAs have therefore informed the design of the proposed development where possible. While developing within RPAs should be avoided, special working methods can be adopted to alleviate the RPA disturbance for cases where the development is considered necessary and unavoidable.

Tree Canopies and Shading

- A2.18 The distribution of tree canopy cover on and within influence of the site is illustrated on the **TCP**. Canopies have been plotted at cardinal points for individual and groups of trees. The Tree Survey Schedule included at **Appendix 4** to the rear of this report lists the vertical clearance from site ground level to significant tree branching of individual trees. This measurement informs the impacts of accessibility and development beneath tree canopies.
- A2.19 The principal tree shadow constraints are shown on the **TCP** and have been plotted in accordance with BS5837 using the current height of surveyed trees. The indicative shade cast by existing surveyed trees signifies the area within which the amenity interests of shading, available daylight and the proximity of trees to any future site uses may be impacted upon should a tree be retained as part of development.
- A2.20 Where shading is unavoidable, the potential adverse impact of shadowing should also be reviewed on balance with the positive aspects of retaining a degree of canopy shade. BS5837:2012 (para. 5.3.4, a) NOTE 1) states that "shading can be desirable to reduce glare or excessive solar heating, or to provide comfort during hot weather. The combination of shading, wind



speed/turbulence reduction and evapotranspiration effects of trees can be utilised in conjunction with the design of buildings and spaces to provide local microclimatic benefits".

Limitations

- A2.21 The comments made are based on observable factors present at the time of inspection. Although the health and stability of trees in their current context is an integral part of their suitability for retention, it must be understood that this report is not a tree risk assessment and should not be construed as such. While every attempt has been made to provide a realistic and accurate assessment of the trees' condition at the time of inspection, it may have not been appropriate, or possible, to view all parts or all sides of every tree to fulfil the assessment criteria of a risk assessment.
- A2.22 No tree can be considered entirely safe, given the possibility that exceptionally strong winds could damage or uproot even a mechanically 'perfect' specimen. It is therefore usually accepted that hazards are only recognisable from distinct defects or from other failure-prone characteristics of the tree or the site. An assessment of the potential influence of trees upon existing buildings or other structures resulting from the effects of trees upon shrinkable load-bearing soils or the effects of incremental root or branch growth, are specifically excluded from this report.

Un-assessable Risks

- A2.23 Any alteration to the application site or development proposals could change the current circumstances and may invalidate this report and any recommendations made.
- A2.24 The Wildlife and Countryside Act (WCA) 1981 (as amended) makes it an offence to disturb nesting birds or recklessly endanger a bat or its roost. Bats are also a European protected species and are additionally protected under the Conservation (Habitats & c) Regulations 1994 and 2010 (as amended). The survey findings, constraints, opportunities and design or mitigation recommendations included within that report must be read alongside this document.
- A2.25 A lack of recommended work does not imply that a tree does not pose an unacceptable level of risk and likewise, it should not be implied that a tree will present an acceptable level of risk following the completion of any recommended work.



Appendix 3: BS 5837:2012 Cascade Chart for Tree Quality Assessment



Appendix 3: Cascade Chart for Tree Quality Assessment

TREES FOR REMOVAL				
Category and Definition	Criteria			Identification on Plan
Category U <i>Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years</i>	Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. Trees infected with pathogens of significance to the health and/or safety of other trees nearby or very low-quality trees suppressing adjacent trees of better quality. (NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve)			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and Definition	Criteria - Subcategories			Identification on Plan
	1. Mainly Arboricultural Values	2. Mainly Landscape Values	3. Mainly Cultural Values, including Conservation	
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN



TREES TO BE CONSIDERED FOR RETENTION				
<p>Category B</p> <p>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p>	<p>Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remedial defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.</p>	<p>Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality</p>	<p>Trees with material conservation or other cultural benefits.</p>	<p>MID BLUE</p>
<p>Category C</p> <p>Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm</p>	<p>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.</p>	<p>Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or temporary/transient landscape benefit.</p>	<p>Trees with no material conservation or other cultural value.</p>	<p>GREY</p>



Appendix 4: Tree Survey Schedule



Tree Number	Common Species Name	Height (m)	Trunk Diameter (mm)	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Comments/Preliminary Management Recommendations	RPA Radius (m)	Root Protection Area (m2)
				N	E	S	W								
T1	Sycamore	8m	Multi stem x 5 120 x 2, 180 x 3	3.50	3.50	3.50	3.50	0.00	Mature	Good	Fair	C.1.2	Located at access to vets offsite. Dense understorey of shrubs and hedge. Hardstanding to north west.	4.3	58
T2	Sycamore	9m	Co-dominant 280, 410 offset	5.00	6.00	6.00	5.00	0.00	Mature	Poor	Poor	C.1.2	Located at access to vets offsite. Dense understorey of shrubs and hedge. Hardstanding to north west.	4.8	71
T3	Ash	8m	320	4.50	4.50	4.50	4.50	3.00	Mature	Good	Good	C.1.2	Located on raised bank. Suppressed to west by G4. Dense understorey of ornamental shrubs. Typical of age and species.	3.8	46
T4	Golden Leylandii	5m	Co-dominant 150, 120	2.00	2.00	2.00	2.00	0.00	Early Mature	Good	Fair	C.1.2	Suppressed by T3 to west as T3 on raised bank.	2.3	17
T5	Silver Birch	11m	290	5.00	5.00	5.00	5.00	3.00	Mature	Good	Good	C.1.2	Individual tree to boundary of water garden. Typical of age and species.	3.5	38
T6	Sycamore	8m	Multi x3 180, 200, 150	5.50	5.50	5.50	5.50	3.00	Mature	Good	Good	C.1.2	Typical of age and species. Laurel hedge understorey.	3.7	43
T7	Silver Birch	13m	440	7.00	7.00	7.00	7.00	2.00	Mature	Good	Good	B.1.2	Mature specimen located at southern edge of water garden. Typical of age and species	5.3	88

Tree Number	Common Species Name	Height (m)	Trunk Diameter (mm)	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Comments/Preliminary Management Recommendations	RPA Radius (m)	Root Protection Area (m2)
				N	E	S	W								
T8	Atlantic Cedar	9m	460	7.00	7.00	6.00	7.00	1.80	Mature	Good	Good	B.1.2	Located in the grass verge on edge of car park. Hardstanding to north, south and west. Flush cuts from lower limb removals. Typical of age and species.	5.5	96
T9	Weeping willow	16m	Multi stem x 3 500, 650, 600 #	10.50	10.50	10.50	10.50	3.00	Mature	Good	Good	C.1.2	Located on northern edge of car park. Bifurcates at 1.5m with 3 stems. Damage to lower limbs on south side due to fence.	12.2	467
T10	Ailanthus	14m #	700 #	10.00	10.00	10.00	10.00	3.00	Mature	Poor	Fair	B.1.2	Private tree adjacent to west boundary. Poor physiologically condition. Stag headed beyond boundary. Overhangs into site by 8m.	8.4	222
T11	Leylandii	16m	450 #	4.00	4.00	4.00	4.00	0.00	Mature	Good	Good	C.1.2	Private boundary tree. Typical of age and species.	5.4	92
T12	Sycamore	12m	Co-dominant 400, 250 #	4.00	4.00	4.00	4.00	2.00	Mature	Good	Fair	C.1.2	Private boundary tree. Overhangs site by 6m. Typical of age and species.	5.7	102
T13	Sycamore	9m	Multi x4 130, 120, 100, 150	5.00	5.00	5.00	5.00	0.00	Mature	Good	Fair	C.1.2	Located at base of raised bank. Private tree? Inclusions at base from multi stems.	3.0	28
T14	Leylandii	12m	400 #	4.00	4.00	4.00	4.00	0.00	Mature	Good	Good	C.1.2	Private boundary tree. Typical of age and species.	4.8	72

Tree Number	Common Species Name	Height (m)	Trunk Diameter (mm)	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Comments/Preliminary Management Recommendations	RPA Radius (m)	Root Protection Area (m2)
				N	E	S	W								
T15	Goat Willow	13m	180, 200, 3x350	8.00	8.00	8.00	8.00	0.00	Mature	Good	Good	B.1	Located on edge of brook. Multistemmed form. Scrub understorey has been cut back.	8.0	201
T16	Turkey Oak	7m	200	4.50	4.50	4.50	4.50	0.00	Mature	Good	Good	C.1.2	Located in scrub area on raised bank. Typical of age and species.	2.4	18
T17	Ash	8m	200	3.00	4.00	3.00	3.00	2.00	Early Mature	Good	Fair	C.1.2	Located on edge of main building in scrub border. Telephone line through crown. Crown lifted / pruned back from building.	2.4	18
T18	Cherry	5m	2x100	1.50	1.50	1.50	1.50	1.00	Early Mature	Fair	Fair	C.1.2	Internal ornamental planting. Hardstanding to south of stem, chain link fence tied to southern leader. Bifurcated form. Amenity grassland to north of stem.	1.7	9
T19	Whitebeam	5m	220	1.50	1.50	1.50	1.50	2.00	Early Mature	Fair	Fair	C.1.2	Internal ornamental planting. Crown lifted with rounded 'lollipop' form. Developed context with hardstanding pathways to south and west of stem.	2.6	22
G1	Ash	11m	250 ave, multi	8.00	4.00	4.00	7.00	2.00	Mature	Fair to Good	Fair to Good	C.2	Boundary screen planting. Supressed to south by G2. Adjacent to amenity grass area. Providing screening into site but ash are demonstrating notable dieback.	3.0	-
G2	Leylandii, Golden Leylandii	11m	250 ave	3.00	3.00	3.00	3.00	0.00	Mature	Good	Fair	C.2	Densely planted screen with dense understorey of Golden Leylandii. Not possible to access stems. Screening value as collective group to site interior.	3.0	-

Tree Number	Common Species Name	Height (m)	Trunk Diameter (mm)	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Comments/Preliminary Management Recommendations	RPA Radius (m)	Root Protection Area (m2)
				N	E	S	W								
G3	Leylandii, Sycamore, Silver Birch	7m	180 Ave	3.00	3.00	3.00	3.00	0.00	Mature	Fair to Good	Fair to Good	C.2	Densely planted boundary screen. Typical of age and species. Hardstanding to north and south.	2.2	-
G4	Apple, Lilac, Cherry, Ash, Pear	4m	150 Ave	3.00	3.00	3.00	3.00	0.00	Early Mature	Good	Good	C.2	Mixed ornamental group on raised bank. Typical of age and species.	1.8	-
G5	Ash, Silver Birch, Goat Willow, Holly, Elder, Hawthorn, Sycamore	6m ave 11m max	180 ave 300 max	As topo				0.00	Young to Mature	Fair to Good	Fair to Good	C.2	Naturalised vegetation, bramble clad, dense and unmanaged self-seeded trees. Viewed from beyond boundary fence line.	3.6	-
G6	Leylandii, Golden Leylandii	12m	250 ave	2.50	2.50	2.50	2.50	0.00	Mature	Good	Good	C.2	Densely planted screen with dense understorey of Golden Leylandii. Not possible to access stems. Boundary screening value into site. Densely planted.	3.0	-
G7	Leylandii, Golden, Silver Birch, Mixed ornamental cherry, dogwood, laurel, apple.	7m 12m	200 ave 350 max	3.50	3.50	3.50	3.50	0.00	Mature	Fair to Good	Fair to Good	B.2	Mixed ornamental boundary screen to private property to north. Ornamental water grass to the south.	4.2	-
G8	Sorbus, Cypress, Lilac, Ornamental Fir, Silver Birch, Alder, laurel, Sycamore, Mahonia, Rowan, Goat Willow, Whitebeam	6m ave 10m max	180 ave 250 max	4.00	4.00	4.00	4.00	2.00	Young to Mature	Good	Good	C.2	Mixed ornamental trees in water garden area. Around paved footpaths through RPA's. Not visible from wider area.	3.0	-

BS5837: 2012 Tree Survey Schedule

World of Pets, Timperley, Altrincham

Tree Number	Common Species Name	Height (m)	Trunk Diameter (mm)	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Comments/Preliminary Management Recommendations	RPA Radius (m)	Root Protection Area (m2)
				N	E	S	W								
G9	Alder, Goat willow, Oak, Cypress, Hawthorn, Elder, Ash	10m ave	350 ave			as topo		0.00	Early Mature to Mature	Fair to Good	Fair to Good	B.2	Naturalised self-seeded tree stock mixed with ornamental planting Wet area to the west with Goat Willow dominant. Higher value as collective Group. Bramble and herbaceous layer understorey. Himalayan Balsam throughout.	4.2	-
G10	Cherry	8m ave	250 ave	4.50	4.50	4.50	4.50	0.00	Young to Mature	Fair to Good	Fair	C.2	Group of scattered trees in unmanaged area. Dense scrub understorey.	3.0	-
G11	Hawthorn, Goat willow, Cherry, plain, Ash	6m ave	180 ave	3.00	3.00	3.00	3.00	0.00	Young to Mature	Fair to Good	Fair to Good	C.1	Continuation of Hawthorn boundary hedge and naturalised Goat Willow and Ash. Dense scrub understorey. Unmanaged, rough area of site.	2.2	-
G12	Leylandii, Goat willow, Hawthorn, Elder, Cherry, Ash, Oak	14m max 7m ave	150 ave 300 leylandii			see plan		0.00	Young to Mature	Fair to Good	Fair to Good	C.1	Continuation of bramble clad Hawthorn boundary hedge and naturalised Goat Willow and Ash. Dense scrub understorey. Unmanaged, rough area of site. Planted line of Leylandii. Low value trees, left to naturalise.	3.6	-
G13	English oak, Goat willow, Crack willow, Sycamore, Elder	12m ave	500 ave	7 ave	7 ave	7ave	7ave	0.00	Young to Mature	Fair to Good	Fair to Good	B.1	Belt of self set, young to mature trees to south of brook beyond boundary. Naturalised form, typical of age and context.	6.0	-
G14	Alder, Sycamore, Monterey Pine, Sorbus, Poplar, Norway Maple	8m ave	300 ave	4.00	4.00	4.00	4.00	2.50	Mature	Good	Good	C.2	Offsite highways trees along Thorley Lane.	3.6	-

Tree Number	Common Species Name	Height (m)	Trunk Diameter (mm)	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Comments/Preliminary Management Recommendations	RPA Radius (m)	Root Protection Area (m2)
				N	E	S	W								
G15	Leylandii, Silver Birch	15m	300 ave	3.50	3.50	3.50	3.50	0.00	Mature	Good	Good	B.1	Mature line of leylandii forming boundary screen to adjoining field. Cut back along kerb line.	3.6	-
G16	Hawthorn	5m	250 ave	2.50	2.50	2.50	2.50	0.00	Mature	Fair to Good	Fair to Good	C.1	Stand of hedgerow trees, largely unmanaged with dieback, standing deadwood and ivy cladding throughout.	3.0	-
G17	Goat Willow	1 - 2m	Max. 75	1.50	1.50	1.50	1.50	0.00	Young	Fair	Fair	C.2	Young self seeded boundary stock, unmanaged.	0.9	-
G18	Dog rose, sycamore, Ash, birch, willow, cotoneaster	3 - 4m	50 - 100.	1.00	1.00	1.00	1.00	0.00	Young	Fair	Fair	C.2	Self-seeded internal trees aligning open storage area fence line. Low value stock.	to 1.2	-
H1	Leylandii, Oak, Ash	2m	100 ave	1.50	1.50	1.50	1.50	0.00	Early Mature	Good	Fair	C.2	Ornamental, maintained hedgerow	1.2	-
H2	Sycamore, Hawthorn, Elder	3m	150 ave	2.00	2.00	2.00	2.00	0.00	Mature	Good	Good	C.2	Boundary hedge to private property. Typical of age and species.	1.8	-
H3	Hawthorn, Cherry, Lilac, Elder	5m ave	200 #	3.00	3.00	3.00	3.00	0.00	Mature	Good	Good	C.1	Mature boundary hedge. Unmanaged. Typical of age and species.	2.4	-

Tree Number	Common Species Name	Height (m)	Trunk Diameter (mm)	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Comments/Preliminary Management Recommendations	RPA Radius (m)	Root Protection Area (m2)
				N	E	S	W								
H4	Hawthorn	4m	100 ave	3.00	3.00	3.00	3.00	0.00	Mature	Good	Good	C.2	Private boundary hedge. Unmanaged. Typical of age and species.	1.2	-

Plans:

12123/P01b: Tree Constraints Plan

12123/P03b: Tree Retention and Removal Plan



- Category B - Trees of Moderate Quality and Value
- Category C - Trees of Low Quality and Value
- Approximate Extent of BS5837 Calculated Root Protection Areas (RPAs)
- BS 5837 Calculated Tree Shadow Constraints

*Denotes trees and groups not identified on topographical. Locations approximated using measurements taken on site.



Project Name

World of Pets and Leisure,
Thorley Lane, Timperley

Drawing Title

Tree Constraints Plan



Scale
1:500 @ A1

Date
September 2021

Drawn by
LB

Checked by
CG / JJ

Drawing No.

12123/P01b

- Potential Tree Removal to Implement Outline Scheme Proposals
- Category B - Trees of Moderate Quality and Value
- Category C - Trees of Low Quality and Value
- Approximate Extent of BS5837 Calculated Root Protection Areas (RPAs)
- BS 5837 Calculated Tree Shadow Constraints

*Denotes trees and groups not identified on topographical Locations approximated using measurements taken on site.



Project Name
World of Pets and Leisure,
Thorley Lane, Timperley

Drawing Title
**Preliminary Tree Retention and
Removal Plan**



Scale
1:500 @ A1

Date
September 2021

Drawn by
LB

Checked by
CG / JJ

Drawing No.
12123/P03b



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